


AD-A215 863

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE June 82	3. REPORT TYPE AND DATES COVERED Final (30 June 1980-30 June 1982)	
4. TITLE AND SUBTITLE FINAL TECHNICAL REPROT ON AFOSR -80--163			5. FUNDING NUMBERS 61102F 2304/A4	
6. AUTHOR(S) Julian D. Cole and Pamela Cook-Ioannidis				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Department of Mathematics University of California Los Angeles, CA 90024			8. PERFORMING ORGANIZATION REPORT NUMBER AFOSR-TR- 80 - 1588	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) AFOSR BLDG 410 BAFB DC 20332-6448			10. SPONSORING/MONITORING AGENCY REPORT NUMBER AFOSR-80-0163	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) This paper summarizes much of the research carried out under this Grant.				
				
14. SUBJECT TERMS			15. NUMBER OF PAGES 1	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT	

Final Technical Report
Air Force Grant No. 80-0163

Research Projects in various areas have been completed but some are continuing. A summary is below.

The book on Transonic Aerodynamics under preparation by J. D. Cole and P. Cook contains a review of older theory and new results in the following areas:

- (i) Stabilization Law of Transonic Flow
- (ii) Far Field at $M_\infty = 1$ downstream of the Tail Shock
- (iii) Three-Dimensional Far Field
- (iv) Axisymmetric Far Field

Calculations have been initiated of the transonic flow out of an orifice both according to small-disturbance theory and exact gasdynamic theory. (S.-Rimbey) 0.

An Invited Paper, AIAA-82-0104. Review of Transonic Flow Theory was presented at the AIAA 20th Aerospace Sciences Meeting January 11-14, 1982, Orlando. This paper summarizes much of the research carried out under this Grant. (v) ←

(copy enclosed)

Julian D. Cole
Julian D. Cole
Co-Principal Investigator

Pamela Cook-Ioannidis
Pamela Cook-Ioannidis
Co-Principal Investigator

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

89 12 05 08